CLAIMS

What is claimed is:

1.   A blank for use in a CAD/CAM system for the manufacture of a dental restoration comprising:

5   a prefabricated preshaped block comprising a particulate filler material, a fibrous material, and a polymeric matrix material;

wherein the block is cured to a hardness for use in a dental restoration; and

wherein the particulate-filled composite material is present in amount of up to about 30%; and

10   wherein the fibrous material is present in an amount in the range of about 20% to about 30%.

2.   The blank of claim 1 wherein the particulate filler comprises particles in the range of 0.001 to about 0.07. μm

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3.   The blank of claim 1 wherein the particulate filler comprises particles in the range from about 0.5 to about 5 microns.

4.   The blank of claim 1 wherein the particulate filler comprises silica,
20   silicate glass, quartz, barium silicate, strontium silicate, barium borosilicate, barium sulfate, barium molybdate, barium methacrylate, barium yttrium alkoxy ($Ba_2Y(OR)_x$), strontium borosilicate, borosilicate, lithium silicate, amorphous silica, ammoniated or deammoniated calcium phosphate, alumina, zirconia, tin oxide, tantalum oxide, niobium oxide, titania or a mixture thereof.

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5.   The blank of claim 1 wherein the particulate filler comprises a mixture of from about 5 to about 20% by weight of borosilicate glass and from about 80 to about 95% by weight of barium borosilicate.

30   6.   The blank of claim 1 wherein the polymeric matrix material

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comprises polyamides, polyesters, polyolefins, polyimides, polyarylates, polyurethanes, vinyl esters, epoxy-based materials, styrenes, styrene acrylonitriles, ABS polymers, polysulfones, polyacetals, polycarbonates, polyphenylene sulfides, polyacrylates, polymethacrylates or a mixture thereof.

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       7.   The blank of claim 1 wherein the fibrous material comprises glass, carbon, graphite, polyaramid, polyester, polyamide or a mixture thereof.

       8.   A dental restoration manufactured from the blank of claim 1.

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